

Original Research Article

Determinants and Constraints of Access to Credit by Poultry Egg Farmers in Ogun State Nigeria

ABSTRACT:

Access to credit is crucial for the advancement of the poultry industry in Nigeria, yet a significant portion of poultry farmers lack access to formal credit sources. This study investigates determinants and constraints to credit access among poultry egg farmers in Ogun State, based on data collected from 180 farmers using a multi-stage sampling technique. Descriptive statistics and a Logit regression model were employed for analysis. About 33.3% of the farmers were within the age range of 41-50, poultry farmers of 62.2% within the region were more of male farmers while 75.6% of the farmers were educated up to tertiary level. Only 45% of respondents had credit access, with varying sources: 19.8% from commercial banks, 37% from cooperatives, 18% from microfinance banks, 2.5% from the Bank of Agriculture, 6.2% from government sources, and 12.3% from private organizations. The Logit model revealed that farming experience and flock size significantly influence credit access ($p < 0.01$). For each year of farming experience, there is a 4.8% increase in the likelihood of credit access. Similarly, for each unit increase in flock size, there is approximately a 0.04% rise in credit access likelihood. Descriptive statistics highlight constraints to credit access: lack of awareness (5.1%), absence of collateral (30.3%), lack of interest (5.1%), loan denial (12.1%), high interest rates (27.2%), regulatory hurdles (8.1%), and inadequate documentation (12.1%). It is recommended that policymakers and financial institutions develop tailored credit products for poultry farmers, addressing specific challenges such as collateral requirements and high interest rates, this is because once financial barriers are removed production is likely to improve. Additionally, enhancing farmer awareness of available credit options and simplifying application processes can improve credit accessibility in the sector.

INTRODUCTION

A critical area in agriculture is the poultry production. It serves as a vital source of protein for consumers as well as an anchor in providing immediate cash in emergencies (Effiong and Konye, 2017).

FAO recommends that an average individual consume 65 grams of protein per day, of which 36 grams should come from animal sources. At the moment, Nigeria is unable to reach this goal. All agricultural aspects must be considered to achieve rapid economic growth and development. Significant changes are required in the livestock industry, particularly poultry. Recent occurrences indicate a significant supply and demand gap for animal protein consumption. Poultry farmers, like other agricultural producers, are logical and would raise their supply if they were certain of a bigger profit, other things being equal (Erhabor *et al.*, 2014).

As a result, increased earnings secure the industry's long-term viability. The sourcing and structuring of credit finance for poultry survival is a key source of concern for stakeholders. Many commercial farms began with zeal but quickly failed due to financial rather than technological grounds. As a result, most poultry farms are unlikely to survive without a reliable

and sufficient source of funding. In developing countries like Nigeria, the inability of access to financial credit is often said to have constrained certain individuals from attaining their economic potential. It is necessary to note that lack of credit acts as one of the crucial impediments to employment generation, investment activities, savings mobilization, and Food Security, etc. of poultry farmers (Szollosi *et al.*, 2021).

According to (Udoka *et al.*, 2016), a report in 2008 from the ministry of agriculture shows that lack of funding is a significant issue in the growth of agriculture. For instance, commercial banks' allocation of credit to the agricultural sector fell from approximately 10.8% of overall loans in 1985 to just about 6.16% in 2022. Several literatures says that credit helps the farmers to invest in new technological methods of livestock production and aids them in terms of better raw material sourcing, marketing, storage, etc.

Access to credit financing for poultry farmers can help stabilize the poultry industry. As a result, credit is a critical variable tool that can help to address production efficiency problems and reduce poverty. It is also one of the main strategies for reducing poverty in most developing countries, and it can be very helpful in promoting employment in the agricultural sector and non-farming activities for working capital investment World Bank, (2017); Chris *et.al*, (2016). Again, the poultry business, like any other farming endeavor, is exposed to several dangers and uncertainties. (Ibukun & Adebayo, 2021);(Amusan & Agunyai, 2021). Credit is critical to increasing farm enterprise productivity, especially in low-income nations where resources are limited and market flaws are common. Farmers' output may rise if financing restrictions are eased (Jimi *et al.*, 2019) In line with this, the research work looks at the determinants of access to credit by poultry egg farmers in Ogun state Nigeria.

- i. Describe farmers' access and volume of credit received by poultry egg farmers in Ogun State Nigeria.
- ii. Analyze the determinant of access to credit of poultry egg farmers in Ogun state Nigeria.
- iii. Identify the constraints to access to credit by the poultry farmers

Study Area:

This study was conducted in the Ota and Remo zonal distribution of poultry association of Nigeria Ogun state (PANOG), the Ota zone comprising Ewekoro, Ifo, and Ado-Odo local government areas, and the Remo zone which is comprised of Remo-North, Ikenna, and Shagamu local government areas of Ogun State.

The State has a total population of 3,751,140 and a landmass of 16,981 sq km, or roughly 1.9% of the area of Nigeria. There are twenty (20) local government areas. Small- to large-scale production, extensive or semi-intensive, and occasionally free-range rearing of improved domestic poultry breeds (in cages or on deep litter) are the main characteristics of the Ogun State poultry system. With a high input and high output, it is both labor- and capital-intensive. Ogun State in the South-West geopolitical zone produces the most poultry in Nigeria. This largest

poultry output is a result of both the high population and the market opportunities in the neighboring States and other regions.

The poultry industry in Ogun State has been divided into numerous zones by the Poultry Association of Nigeria in Ogun State (PANOG). Egba, Yewa, Ota, Mowe, Remo, and Ijebu zones are included in the zones. It supports the objectives of firms in the connected poultry industry as well as those who produce broiler, egg, and chicken meat. It stands in for the entire poultry industry. PANOG encourages dialogue between the government and the business community in order to keep policymakers informed of the requirements and issues facing the sector. Additionally, it works to ensure that everyone complies with the sector's norms and regulations set forth by the organization and the relevant governments.

2. Materials and Method

2.1 Sampling Technique and Sample Size

The majority of the information used in this study was primary data, which was gathered from poultry egg farmers in the study area using the open-source Android app kobo collect. For this investigation, multi-stage sampling method was used. Two zones was randomly chosen from the Poultry Association of Nigeria's Zonal distribution for the first stage (Ota and Remo Zones). The next stage involved the choice of six Local Government areas, three in each zone, the last step in the sampling process comprised selecting 30 poultry farmers at random from each Local Government Area (LGA) that had been chosen, for a total of 180 poultry farmers.

2.2 Analytical Technique

Analytical tools that was used in the study are:

- i. Descriptive statistics: including mean, percentage and frequency

The descriptive statistics was used to determine the farmers' access to credit and the volume of the poultry farmers' credit, which involved the use of frequency table, percentages and mean to describe respondents' socioeconomic characteristics, and also used to identify the constraints to access to credit by the poultry egg farmers in the research area.

- ii. The logit regression was used to examine the determinant of access to credit

The determinant of the respondents' access to credit was identified using the logit regression model. It is a unit method that enables the estimation of the likelihood that a certain event will occur or not by forecasting a binary dependent outcome from a set of independent factors. According to (Farayola *et al.*, 2013) while coating Rahman and Alamu, there are two benefits to the logit model for this study over the

linear probability and probit models. A probability of choosing between (0 and 1) is produced by the logit model. It is also simpler and more practical to compute than the probit model, which gives it an advantage over the linear probability model. Based on the cumulative logistic probability function, the tractable logit model is computationally efficient. (i.e., $Y=1$) given the values of $X_1 \dots X_n$ is as follows; $P(Y) = \frac{1}{1 + \exp - (\alpha - \sum \beta_j X_j)}$.

In order to linearize the right-hand side, a logit transformation can be applied by taking logarithm of both sides. Therefore, researchers can have;

$$\text{Logit } P(Y) = \alpha + \beta_j X_j + \beta_2 X_2$$

Where; $Y_i = 1$ if successful, i.e., e.g. As access to credit

$Y_i = 0$ if failure, i.e., No access to credit

α = Constant term

β = Logistic coefficient for independent variables.

3. Results and Discussion

3.1. Socio-economic Characteristics of Small and Medium Poultry Egg Farmers in the Study

Area

The socio-economic characteristics of poultry egg farmers in Ogun State Nigeria are of immense significance in the country's agricultural sector. With Nigeria being one of the largest egg producers in Africa, these characteristics provide essential insights into the dynamics of this vital industry. Understanding the demographic profile of poultry egg farmers, including age, education, gender, flock size capacity and access to credit, etc. significantly influences the scale of operations and investment capacity in the sector. Policymakers can utilize this information to facilitate access to credit and financial services, which is essential for expanding and modernizing poultry egg production. A summary of the socio-economic data is presented in Table 1

Table 1. Socio-Economic Characteristics of Poultry Egg Farmers

Characteristic	Frequency	Percentage
Age(years)		
20-30	19	10.6

31-40	44	24.4
41-50	60	33.3
50-60	41	22.8
61-70	14	7.8
≥ 70	2	1.1
Household Size		
1-3	46	25.7
4-6	121	67.6
7-10	12	6.1
≥11	1	0.6
Farming Experience(years)		
1-5	39	21.7
6-10	68	37.8
11-15	41	22.8
16-20	18	10.0
21-25	10	5.6
26-30	3	1.7
≥31	1	0.6
Flock Size		
≤ 1000 (Small)	41	22.8
1001-5000 (medium)	105	58.3
5001-10000 (controlled large)	34	18.9
Gender of Poultry Farmer		
Male	112	62.2
Female	68	37.8
Educational status		
Primary education	11	6.1
Secondary education	33	18.3
Tertiary education	136	75.6
Membership of Association		
Yes	138	76.7
No	42	23.3
Membership of Cooperative		
Yes	83	46.1
No	97	53.9
Visits by Extension Agents		
Yes	42	23.3
No	138	74.7
Access to Credit Facility		
Yes	81	45.0
No	99	55.0

The socio-economic profile indicates that the average age of farmers in the area is 46 years, falling within the 41-50 age range, which aligns with findings by Adewuyi *et al.* (2013) among poultry farmers in Ogun State. This also supports Yusuf and Malomo's, (2007) report of an average age of 44 years for poultry (egg) farmers in the same region. The study found that 62.2% of respondents were male, while

37.8% were female poultry farmers. The predominance of male participants in poultry production could be linked to the demanding nature of the work, which may be challenging for some women to handle. Additionally, the field survey showed that a majority (75.6%) of respondents had tertiary education. This observation is consistent with Adewuyi *et al.* (2013), who highlighted a strong relationship between education and production efficiency, noting that most respondents had attained post-secondary education.

3.2. Result of Access and Volume of Credit Received by Poultry Egg Farmers in Ogun State Nigeria.

Descriptive statistics was used to describe the poultry egg farmers' access to credit, their sources of credit and volume of credit received by the poultry egg farmers in the study area as presented in Table 2. The result shows that out of the respondents, 45% had access to credit, whereas the remaining 55% had no access to credit this shows that majority of the poultry farmers were doing the business using personal savings, this is consistent with results obtained by (Chioma *et al.*, 2017; Olagunju & Babatunde, 2011). The barriers faced by those who had no access to credit were primarily attributed to factors such as insufficient awareness about credit opportunities, lack of interest in borrowing, the unreasonably high interest rates applied to loans, loan applications being denied, rigorous hurdles being faced in the process of applying for loans which leads to discouragement and inadequate/lack of required documents necessary for getting loan, this is consistent with results reported by (Adeoti & Soyele, 2019 ; Okorie *et al.*, 2024).

The volume of credit received by the poultry egg farmers who had access to credit shows that only about 3% of the poultry farmers received loan that was equal to or greater than ₦10,000,000, this could be as a result of the high interest rate and collateral required to get such loans especially from commercial banks as reported by (Adeoti & Soyele, 2019), about 9.9% of the farmers were able to receive loan ranging from ₦5,000,000 to ₦9,999,999, while majority of the of those who had access to credit, about 53% of them received credit loan ranging from ₦100,000-₦499,999, also about 30.9% of the farmers received loans ranging from ₦100,000-₦999,999, while a very low percentage of 2.5% of the farmers were able to get credit loan of less than ₦100,000. The report also shows that while about 55% of the farmers did not have access to credit which indicate that they were running the poultry farms with private savings, the remaining 45% received credit from different sources. The credit sources shows that about 19.8% of the farmers had access to credit from commercial banks, 37% had access to credit from cooperative sources, 18% of the farmers had access to credit from micro finance banks, 2.5% had access to credit from bank of agriculture, 6.2% of the poultry egg farmers had access to credit from

government sources, and 12.3% had access to credit from private organization(which includes family and friends) this findings are consistent with findings reported by (Adeoti & Soyele, 2019; Chioma et al., 2017).

Table 2. Credit Access, Sources and Volume of Credit Received

Characteristic	Frequency	Percentage
Credit Access		
Yes	81	45
No	99	55
Credit Source		
Commercial Banks	16	19.8
Cooperative	30	37.0
Micro Finance Banks	18	22.2
Bank of Agriculture	2	2.5
Government	5	6.2
Private Organization	10	12.3
Volume of credit received		
≥ 10000000	3	3.7
5000000-9999999	8	9.9
1000000-4999999	43	53.0
100000-999999	25	30.9
<100000	2	2.5

Field survey 2023

3.3: Determinants of Access to Credit of Poultry Egg farmers in Ogun State Nigeria:

The logit regression on the determinants of the poultry egg farmers' access to credit is shown as

Number of observations: 180

Likelihood Ratio (LR) chi-squared test statistics: 46.29

Probability (Prob) > chi-squared: 0.0000

Log likelihood: -100.71837

Pseudo R-squared (Pseudo R²): 0.1869

The summary statistics give an overall view of the logistic regression model's performance and significance. The LR chi-squared test, with a very low p-value ($p < 0.001$), indicates that at least one of the predictor variables is significantly associated with the outcome variable (credit

access). The Pseudo R-squared value (0.1869) tells you how well the model explains the variability in the outcome variable, and this result suggests that the model explains about 18.69% of the variability in the outcome variable, credit access.

The result shows that the key factors that influence access to credit for poultry egg farmers in the research area include, farming experience (the number of years of practical farming experience), and flock size (measured by the number of birds they had on the farm). The variable farming experience which is significant at 10% explains that for every one-year increase in farming experience, there is a 4.8% chance of having access to credit, this could be because as the farmer gets more experienced in the business, they are able to put together every necessary documentation needed to access credit. The flock size has a coefficient of approximately 0.0003929 and is highly statistically significant ($p < 0.001$), and this shows that for every unit increase in the number of the flock size, there is approximately 0.04% chance of access to credit, this is as depicted in Table 3, *this result is contrary to the result obtained by (Akintunde., et al 2020) which had a negative relationship between flock size and credit access.*

Table 3. Logistic Regression for Determinants of Access to Credit of Poultry Egg farmers in Ogun State Nigeria.

Credit access	Coef.	Std.Err.	z	p> z
Sex	-0.3736	0.3857	-0.97	0.333
Years of Schooling				
12	-0.4620	0.8591	-0.54	0.591
16	-0.2466	0.7660	-0.32	0.748
Age	0.0072	0.0233	0.31	0.758
Marital Status	-0.0557	0.5638	-0.10	0.921
Household Size	-0.0089	0.1270	-0.07	0.944

Access to extension	0.3370	0.4460	0.76	0.450
Association	0.1109	0.5324	0.21	0.835
Cooperative	0.1963	0.4188	0.47	0.639
Farming experience	0.0486*	0.0272	1.78	0.074
Nonfarm activity	-0.4098	0.3607	-1.14	0.256
Flock size	0.0004***	0.0001	4.56	0.000
_cons	-1.7629	1.1892	-1.48	0.138

Source: Field Survey 2023. ***Significant at 1%, **Significant at 5%, *Significant at 10%

3.4. Constraint to access to credit by poultry egg farmers:

Table 4, shows the results obtained from poultry egg farmers in Ogun State regarding their constraints to accessing credit the results reveal a number of significant factors that hinder their ability to secure financial support for their businesses. These constraints can have a profound impact on the poultry industry in the region, as it is essential for farmers to have access to credit to sustain and expand their operations.

The findings indicate that a multi-faceted approach is needed to improve access to credit for poultry egg farmers in Ogun State. This should include increasing awareness, reducing the reliance on traditional collateral, addressing the reasons for a lack of interest, improving the loan application and approval process, and tackling high-interest rates and regulatory hurdles

1. Lack of Awareness: Approximately 5.1% of the respondents were not aware of the availability of credit options. This suggests that there may be a need for more extensive outreach and education programs to inform poultry farmers about the various credit opportunities that exist. Increased awareness could potentially help more farmers access the credit they need to grow their businesses.

2. **Lack of Interest:** An equal percentage, 5.1%, of respondents expressed a lack of interest in accessing credit. It is essential to investigate the underlying reasons for this lack of interest, as it could be related to issues such as perceived complexities in the application process or a reluctance to incur debt. Understanding these reasons may aid in designing more attractive credit schemes that align with farmers' needs and preferences.
3. **Collateral Requirement:** A significant proportion, 30.3%, of respondents cited the absence of collateral as a constraint to accessing credit. This is a common issue in the agricultural sector, where many farmers lack the necessary assets to provide as collateral. Financial institutions and policymakers should explore alternative credit models that do not rely heavily on traditional collateral, such as asset-based lending or crop-based financing.
4. **Loan Application Denials:** About 12.1% of respondents reported that their credit applications had been denied. This is a concern, as it indicates that even when farmers are aware of and interested in accessing credit, they may still face rejection. Efforts should be made to improve the transparency and fairness of the credit approval process to reduce the rate of denial.
5. **High-Interest Rates:** High-interest rates on loans were cited by 27.2% of the respondents as a significant constraint. High borrowing costs can make credit unaffordable for farmers and erode the potential benefits of taking out loans. Policymakers and financial institutions should explore mechanisms to lower interest rates, such as subsidized credit programs or partnerships with agricultural development organizations.
6. **Regulatory Hurdles:** Regulatory hurdles were mentioned by 8.1% of respondents. Addressing these hurdles might require streamlining bureaucratic processes, reducing red

tape, and ensuring that regulations do not unduly burden farmers seeking credit.

7. Inadequate Documentation: Another 12.1% of respondents cited inadequate documentation as a constraint. This could be related to the complexity of the application process or a lack of knowledge about the specific documentation required. Simplifying documentation requirements and providing support to farmers in preparing their applications could help address this issue.

Table 4: Constraints to Access to Credit by Poultry egg farmers

Constrain to access to credit	Percentages	Frequencies
Not aware of availability	5.1	5
Not interested	5.1	5
Don't have collateral	30.3	30
Application was denied	12.1	12
High-interest on loan	27.2	27
Regulatory hurdles	8.1	8
Inadequate documentation	12.1	12

Summary:

The research investigates the access to credit among poultry egg farmers in the study area, examining their sources of credit and the volume of credit received. Descriptive statistics reveal that while 45% of respondents had access to credit, the majority relied on personal savings for their poultry farming operations. Barriers to credit access included insufficient awareness, high interest rates, loan denials, and regulatory hurdles. Logit regression analysis identified farming

experience and flock size as significant factors influencing credit access. Further analysis highlights constraints faced by poultry farmers in accessing credit, including lack of awareness, interest, collateral requirements, loan denials, high-interest rates, regulatory hurdles, and inadequate documentation.

Conclusion:

The research underscores the critical role of credit access in sustaining and expanding poultry farming operations. It reveals that despite some farmers having access to credit, significant barriers persist, hindering many from obtaining financial support. The findings emphasize the need for a comprehensive approach to address these challenges, including increasing awareness, reducing reliance on traditional collateral, improving the loan application process, and tackling high-interest rates and regulatory hurdles. Additionally, efforts should focus on understanding farmers' needs and preferences to design more attractive credit schemes.

Recommendations:

Based on the research findings, the following recommendations are proposed to enhance credit access for poultry egg farmers:

1. **Increase Awareness:** Implement extensive outreach and education programs to inform poultry farmers about available credit options and opportunities.
2. **Address Lack of Interest:** Investigate reasons behind farmers' lack of interest in accessing credit and tailor credit schemes to align with their needs and preferences.
3. **Explore Alternative Collateral Models:** Develop alternative credit models that do not heavily rely on traditional collateral, such as asset-based lending or crop-based financing.
4. **Improve Transparency in Loan Application Process:** Enhance transparency and fairness in the credit approval process to reduce the rate of loan denials.

5. **Lower Interest Rates:** Explore mechanisms to lower interest rates, such as subsidized credit programs or partnerships with agricultural development organizations.
6. **Streamline Regulatory Processes:** Streamline bureaucratic processes and reduce regulatory hurdles to make credit more accessible to poultry farmers.
7. **Simplify Documentation Requirements:** Simplify documentation requirements and provide support to farmers in preparing their credit applications to address issues related to inadequate documentation.

By implementing these recommendations, stakeholders can contribute to improving access to credit for poultry egg farmers, thereby fostering the growth and sustainability of the poultry industry in the study area.

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